

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 088A

Mile Post (ON)11: 1.090 mi

Bridge Key: F-16-EK

Inspection Date: 4/27/2012

Sufficiency Rating: 57.0 FO

Rgn/Sectn 2E/2M:	68	Hist Signif 37:	3	UW Inspection Date 93B:	
Trans Region 2T:	02	Posting status 41:	A	SI Date 93C:	
County Code 3:	031	Service on/un 42A/B:	5 1	Bridge Cost 94:	\$ 467,325
DENVER		Main Mat/Desgn 43A/B:	2 4	Roadway Cost 95:	\$ 46,733
Place Code 4:	20000	Appr Mat/Desgn 44A/B:	0 0	Total Cost 96:	\$ 700,988
DENVER		Main Spans Unit 45:	4	Year of Cost Estimate 97:	2006
Rte.(On/Under)5A:	1	Approach Spans 46:	0	Brdr Brdg Code/% 98A/B:	
Signing Prefix 5B:	3	Horiz Clr 47:	60.0 ft	Border Bridge Number 99:	
Level of Service 5C:	1	Max Span 48:	54.0 ft	Defense Highway 100:	0
Directional Suffix 5E:	0	Str Length 49:	180.0 ft	Parallel Structure 101:	N
Feature Intersected 6:		Curb Wdth L/R 50A/B:	5.0 ft 5.0 ft	Direction of Traffic 102:	2
US 6 ML		Width Curb to Curb 51:	60.0 ft	Temporary Structure 103:	
Facility Carried 7:		Width Out to Out 52:	72.1 ft	Highway System 104:	1
SH 88 ML FEDERAL		Deck Area:	12,981.3 sq. ft	Fed Lands Hiway 105:	0
Alias Str No.8A:		Min Clr Ovr Brdg 53:	99.99	Year Reconstructed 106:	0000
		Min Undrclr Ref 54A:	H	Deck Type 107:	1
Prll Str No. 8P		Min Undrclr 54B:	14.2 ft	Wearing Surface 108A:	6
		Min Lat Clmce Ref R 55A:	H	Membrane 108B:	0
Location 9:	328.05117409:	Min Lat Undrclr R 55B:	2.0 ft	Deck Protection 108C:	0
FEDERAL / 6 IN DENVER		Min Lat Undrclr L 56:	2.001312382	Truck ADT 109:	6 %
Max Clr 10:	99.99	Deck 58:	5	Trk Net 110:	0
BaseHiway Net12:	1	Super 59:	6	Pier Protection 111:	#
IrsinvRout 13A:	000000088A	Sub 60:	7	NBIS Length 112:	Y
IrrsubRout No13B:	00	Channel/Protection 61:	N	Scour Critical 113:	N
Latitude 16:	39d 43' 33"	Culvert 62:	N	Scour Watch 113M:	
Longitude 17:	105d 01' 31"	Oprrtg Rtg Method 63:	1 LF Load Fact	Future ADT 114:	42,294
Range18A:	68 W	Operating Rating 64:	45.0	Year of Future ADT 115:	2028
Township18B:	4S	Inv Rtg Method 65:	1	CDOT Str Type 120A:	CSGC
Section18C:	8	Inventory Rating 66:	27.0	CDOT Constr Type 120B:	5.
Detour Length 19:	2.0 mi	Asph/Fill Thick 66T:	002 "in"	Inspection Indic 122A:	
Toll Facility 20:	3	Str. Evaluation 67:	6	Inspection Trip 122AA:	
Custodian 21:	1	Deck Geometry 68:	2	Scheduling Status 122B:	
Owner 22:	1	Undrclr Vert/Hor 69:	3	Maintenance Patrol 123:	98
Functional Class 26:	14	Posting 70:	5	Expansion Dev/Type124:	0
Year Built 27:	1958	Waterway Adequacy 7:	N	Brdg Rail Type/Mod 125A/B:	J 2
Lanes on 28A:	6	Approach Alignment 72:	8	Posting Trucks 129A/B/C:	0 0 0
Lanes Under 28B:	8	Type of Work 75A:	33	Str Rating Date 130:	6/6/1995
ADT 29:	37,100	Work Done By 75B:	1	Special Equip 133:	-1
Year of ADT 30:	2008	Length of Improvment 76:	180.1 ft	Vert Clr N/E 134A/B/C:	E 16.08 14.41
Design Load 31:	4	Insp Team Indicator 90B:	RED TEAM	Vert Clr S/W 135A/B/C:	W 16.00 14.25
Apr Rdwy Width 32:	60.0 ft	Inspector Name 90C:	TATALASKIT	Vertical Clr Date:	10/25/2005
Median 33:	0	Frequency 91:	24 months	Weight Limit Color: 139:	0
Skew 34:	0.00 °	FC Frequency 92A:	-1	Str Billing Type:	U
Structure Flared 35:	0	UW Frequency 92B:	-1	Userkey 1 - System:	ONSY
Sfty Rail 36a/b/c/d:	0 0 0 0	SI Frequency 92C:	-1	Userkey 7-Update Indic:	
Rail ht36h:	47 "in"	FC Inspection Date 93A:			

Inspector Name: TATALASKIT

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 088A

Mile Post (ON)11: 1.090 mi

Element Inspection Report

Elm/En	Description	Units	Total Qty	% in 1	CS 1	% in 2	CS 2	% in 3	CS 3	% in 4	CS 4	% in 5	CS 5
13/4	Unp Conc Deck/AC Ovl	(SF)	12,978	0 %	0	0 %	0	100 %	12,978	0 %	0	0 %	0
110/4	R/Conc Open Girder	(LF)	1,239	98 %	1,216	2 %	23	0 %	0	0 %	0	0 %	0
205/4	R/Conc Column	(EA)	15	40 %	6	60 %	9	0 %	0	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	144	93 %	134	7 %	10	0 %	0	0 %	0	0 %	0
234/4	R/Conc Cap	(LF)	201	98 %	197	2 %	4	0 %	0	0 %	0	0 %	0
325/4	Slope Prot/Berms	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
326/4	Bridge Wingwalls	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
334/4	Metal Rail Coated	(LF)	360	0 %	0	0 %	0	8 %	30	90 %	325	1 %	5
338/4	Conc Curbs/SW	(LF)	360	68 %	245	25 %	90	4 %	15	3 %	10	0 %	0
342/4	Sign Attachment	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
343/4	Pole Attachment	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
359/4	Soffit Smart Flag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
371/1	Traff Imp Dck SmFlag	(LF)	7	50 %	4	0 %	0	50 %	4	0 %	0	0 %	0

Elem/Env	Description	Element Notes
13/4	Unp Conc Deck/AC Ovl	2 inches of asphalt. Overlay in very poor condition. Moderate rutting and raveling; numerous small potholes at junctions of cracks. Alligator cracking in several areas, and scattered asphalt patches. Large patches near the Left side gutter. Many moderate transverse cracks and several moderate longitudinal and diagonal cracks; all unsealed. See 2010 PHOTOS.
110/4	R/Conc Open Girder	Vertical flexure cracks, mostly on the exterior girders, and open to 1/32 in. Exterior of Girders A and G, are water stained. A diagonal crack in 4B at Abutment 5 is open to 1/16 inch. Longit. delam. cracking along bottom flange of Girder 2A (10 LF), and some along bottom flange of Girder 3A (3 LF). Minor impact of an overheight vehicle has caused a 1 foot long chip or spall, on the bottom of Girder 3F near P4 (no exposed rebar). Girder 2G is chipped above ML #2, and patched above ML #3. There is an insignificant scrape to Girder 2G at the #4 Lane Westbound.
205/4	R/Conc Column	Vertical cracks with delam. at the base of many columns, now covered some by concrete barrier rails which were installed fairly recently.
215/4	R/Conc Abutment	Light vertical cracks in the center of most bays. Water stained. Horiz. cracking near top of Rt. end of A4. Some light delam. cracking at Lt. end of A1.
234/4	R/Conc Cap	A few hairline vertical cracks. Delam. cracking at Lt. end of P3.
325/4	Slope Prot/Berms	Hard packed dirt slopes at both abutments. Minor wind and water erosion to both. Recent homeless activity at both, (see 07/13/2010 & 4/12 PHOTOS).
326/4	Bridge Wingwalls	Minor seepage from cold joints. A few minor random cracks.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 088A _

Mile Post (ON)11: 1.090 mi

Elem/Env	Description	Element Notes
334/4	Metal Rail Coated	Type J, painted angle iron pickets. Poor faded paint, with spots and small areas of rust flaking (R2 - R3 corr.) randomly throughout. Holes through the web of a few posts on the Left side, (R4 corrosion). The Left side end post at Abutment 1 has been hit; the exterior flange and part of the web have been ripped loose from the baseplate.
338/4	Conc Curbs/SW	Curbs and sidewalks have transverse cracks with spotted light scaling. The Left gutter face in Span 4 has a horizontal crack with delamination. The exterior edge of the left walk is deteriorated with exposed rebar, near Abutment 1 and Pier 2; and on the Right side near Pier 4.
342/4	Sign Attachment	BMS bolted to Girder A, and the bridge rail in Span 2 at Left. Most of the paint is worn off of the framework, with light R1 corrosion, and spots of R2 corrosion. All connections appear to be stable.
343/4	Pole Attachment	Light poles on concrete pedestals on the Right side in Span 1, and on the Left side of Span 4; both look OK during the 2012 inspection.
359/4	Soffit Smart Flag	Spotted areas of map cracking with mod. efflor. and some scale and delam. Spalls with efflor., and some exposed rebar in Bays 2F (two at 1.5 foot diameter), 3C (3 square feet), 4A, 4C, 4E (0.5 square feet), and 4F (0.5 square feet with exposed rebar). Moderate delam. and spall (2 square foot spall, and a 4 square foot delam.), in Bay 1F near Abutment 1; (see 4/2006 PHOTO). Electrical junction boxes in bottom of the slab, have rust stains around them. Spalling with exposed corr. rebar and a few delaminations along both overhangs (4/12 PHOTO).
371/1	Traff Imp Dck SmFlag	IMP-MM/DD/YY, INSP-07/01/02, REP-05/08/08: Rail and post on the Right side in Span 3 previously bent by auto impact, and cracked, spalled at post, has been repaired; (see 07/2002 PHOTOS of original damage). The Left curb at post in Span 2 has been repaired. IMP-MM/DD/YY, INSP-05/08/08, REP- 00/00/00: The left end post at Abutment 1, is damaged from impact, (SEE ELEMENT 334).

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
**398.00	Misc Br Wk	6/24/2004	-1	2014	500

Remove delaminated concrete from edge of the deck along Rt side above EBnd traffic. See 4/12 PHOTO.

356.01	Curb & RI	7/1/2002	-1	2014	200
--------	-----------	----------	----	------	-----

Repair the Left bridge rail end post at Abutment 1.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 088A _

Mile Post (ON)11: 1.090 mi

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
399	Eng Wk	7/1/2002	-1	2014	400

Approach sidewalk to bridge walk is 3 inches low at ends on right, needs repaired.

398.0	Misc Br Wk	4/13/2006	-1	2014	50
-------	------------	-----------	----	------	----

Tighten and replace missing strap for speed limit sign mounted on median column for WB traffic.

356.02	Curb & RI	7/1/2002	-1	2014	2000
--------	-----------	----------	----	------	------

Consider repairing the cracked and delaminated portion of the left curb in Span 4. Repair the exterior edge of the Left sidewalk, at Abutment 1 and Pier 2, where it is deteriorated with rebar exposed.

353.09	Br Dk Rpr	7/1/2002	-1	2014	50000
--------	-----------	----------	----	------	-------

Asphalt surface needs to be rotomilled and replaced. Contact Staff Bridge.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 088A _

Mile Post (ON)11: 1.090 mi

Bridge Notes

Utilities: One 30 inch diameter waterline in Bay B. One 36 inch diameter waterline, with eight 4 inch diameter conduits in Bay D.
The Approach walk to the bridge on the Right side at Abutment 1 is 2 inches low. Appr. walk at Lt. fwd. end is heaving and spalled.
The direction of inventory for Highway 88 (Federal Blvd.), is going south; (see SKETCH). Vertical clearance is marked 13 feet - 10 inches for #1 Lane, and 15 feet - 0 inches at #4 Lane of 6 Westbound lanes. The Eastbound lanes are marked 13 feet - 10 inches for the #1 Lane, and 15 feet - 6 inches for the #4 Lane.
Homeless living at both abutments. See PHOTOS.

Needs new Master Clearance.
ON STIP TO BE REPLACED W/ F-16-XO.

Inspection Notes

Time: 10:20 Temperature: 55 Degrees Weather: P/C Team leader: TAT

Scope:

☒ NBI: ☒ Element: ☐ Underwater: ☐ Fracture Critical: ☐ Other: Type: Regular NBI

Inspector: TATALASKIT

Inspection Team:

Inspection Date: 04/27/2012

Inspector

Inspector